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May 31, 1994

Mr. Andrew Edwards
Manager of Operations
238 East 100 North
Kanab, Utah 84741

Re: Review of Notice of Intent to Conduct Large Mining Operations, March Corporation, Bald Knoll Mine, M/025/012 (previously S/025/012), ML 45962, ML 46151, Kane County, Utah.

Dear Mr. Edwards:

The Division has completed a review of your draft amendment submission received January 21, 1994. After reviewing the information, the Division has the following comments that must be addressed before tentative approval may be granted. The comments are listed below under the applicable Minerals Rule heading. Please format your response similarly.

R647-4-105 - Maps, Drawings & Photographs

105.1 - Base Maps

Please provide the Division with map(s) which include a border more specifically outlining the area to be disturbed. This will be the permit/disturbed area boundary. Should you anticipate expansion outside this permitted boundary you will need to submit an application for a permit revision/amendment. A reclamation surety will be based, in part, by the size of this permit/disturbed area boundary.

The map(s) should identify the areas of the site that are currently disturbed and those areas that will be disturbed. Please provide an accurate scale with these maps so that reliable measurements can be taken from them. (TWJ)

105.2.11 - Proposed surface facilities (buildings, roads, ponds, etc.)

Please indicate on the aforementioned map(s), or on a separate surface facilities map, the locations of: all roads, pits/quarries, quarried product, wasterock and topsoil stockpile areas, loadout area, and buildings, etc., that will be associated with the site. (TWJ)

Please identify the roads which have been newly constructed and those that have been improved as part of your mining operations. Please identify the location of existing and/or proposed road surface drainage and erosion control features (eg., culverts and waterbars, rock check dams,

strawbales, etc.) Please show the location of the two identified cultural resource sites on the surface facilities map. (AAG)

105.2.12 - Border outlining disturbed acreage

See comments above under R647-5-105.1.

105.3 - Maps, drawings or cross-sections

Please provide typical cross-sections of the pit(s) showing the configuration before and after reclamation. (AAG)

Please provide a map of reclamation treatments that would show areas that will be reclaimed differently (i.e. different seed mixes, soil depths, seeding methods, etc.). Also, cross sections of all slopes greater than 4:1 should be shown on this map. (LMK)

105.3.16 - Baseline conditions

What is the average annual precipitation for the general area of the mine site? How much of this precipitation appears as snow? (TWJ)

R647-4-106 - Operation Plan

106.2 - Type of Operation Conducted

Please describe the proposed depth of the mine pits. A maximum/minimum depth may be adequate if information on the ore body is not available. Will the pits include benching? If so, please describe the vertical spacing between benches and the bench width. (AAG)

106.4 - Nature of materials including waste/overburden and estimated tonnage

What is the estimated amount of ore to be mined annually and the amount of overburden available for reclamation? (TWJ/AAG)

106.5 - Existing soil types, location of plant growth material

The operator needs to provide specific information on existing soils to be disturbed by mining. General soils information is not sufficient.

Please identify existing soil resources by describing the soils found in the permit area. Soil types should be identified along with depth and extent, especially those to be directly impacted by mining, including an analysis of each soil type in the permit area, which includes: texture, pH, SAR, EC, nitrogen, phosphorus and potassium. This information is also needed for overburden materials if they will be used as substitute topsoil.

The mine plan should also include an Order 3 Soil Survey map (a map showing general soil types found in the area). (LMK)

106.6 - Plan for protecting and redepositing existing soils

Please explain how stockpiled topsoil materials will be protected during interim between storage and reapplication. The Division recommends that the stockpiles be bermed and revegetated or otherwise covered to minimize wind and water erosion. (TWJ)

106.7 - Existing vegetative communities to establish revegetation success

Please provide the Division with a correlation between the range site descriptions and the mine plan area (vegetation map or correlating range sites with soil types). Assuming the range site descriptions cover the mine plan area, this correlation would complete vegetation information needs. (LMK)

R647-4-107 - Operation Practices

107.1.14 - Posting warning signs

The Division may require the posting of warning signs if public access to a pit or highwall hazard is available. (AAG)

107.1.15 - Construction of berms, fences

Depending on the extent and depth of the quarry, it may be necessary to berm or fence the perimeter of the pit during operations to prevent hazards to the public. If the highwalls are not too extreme or extensive, it may not be necessary to construct barricades. (TWJ)

107.2 and 107.3 - Drainages to minimize damage and Erosion Control

The plan mentioned several culverts are required to prevent the haul road from washing out. Whose responsibility is the maintenance of these culverts? (AAG)

What erosion control measures are to be used on the access road? (TWJ)

107.4 - Deleterious materials safely remove or isolate

Will fuels be stored at the mine site? If so, please describe the mode of storage and a spill control and prevention plan. (AAG)

107.5 - Suitable soils removed & stored

The plan indicates a 6-inch average depth of soil to be removed for a total of 500 cubic yards per acre. Please note, this stripping depth would yield over 800 cubic yards. The Division encourages the removal and storage of all topsoil and/or other suitable plant growth medium for reclamation. This would generate excess soil material from areas where soil is deep and reduce the amount of borrow areas for areas where soil is shallow or cannot be salvaged. (LMK)

R647-4-109 - Impact Assessment

109.2 - Wildlife habitat and endangered species

Please provide a general discussion of wildlife and critical habitat that may occur on the mine site. Will any critical habitat be impacted by the mining operation? What major wildlife species are present? What mining-related impacts are anticipated? Are there any threatened or endangered species present (animals and/or plants)? (LMK)

109.4 - Slope stability, erosion control, air quality, public health & safety

Please explain the status of your air quality permit, and its requirements in relation to your operation. (TWJ)

R647-4-110 - Reclamation Plan

110.2 - Roads, highwalls, slopes, leach pads, impoundments, drainages, pits, trenches, ponds, drill holes, etc. will be reclaimed

Will all pits be completely backfilled? Will any highwalls be created during mining and, if so, what will their configuration be after reclamation? The overall highwall angle can be no more than 45 degrees at final reclamation. All regraded dump or fill slopes should be 3H:1V or less steep. Accessible pit benches should be topsoiled, or covered with fines, and revegetated. (TWJ)

110.3 - Surface facilities to be left

Will the main access route(s) remain after reclamation of the mine site? If so, what is its post-mine use? The Division must have written documentation if Kane county or the land owner want this road to remain after the mine is reclaimed. Otherwise, the Division will require reclamation of the road. (TWJ, LMK)

110.5 - Revegetation planting program and topsoil redistribution

A seed mix(es) must be provided before approval, The Division can assist in developing appropriate revegetation plans; however, the operator will need to provide documentation as to the needs and desires of the surface landowners.

Will overburden/soil be redistributed over bedrock? If so, a minimum of 12 inches of soil or other suitable plant growth medium is necessary to provide adequate rooting zone for reclamation of these bedrock areas. If sufficient soil volumes are not salvaged from the disturbed areas to accomplish this, then borrow areas may need to be located and approved. Fertilizer may be required; however, the type and rate cannot be determined until the specific soil data as requested under R647-4-106.5 is submitted. (LMK)

R647-4-111 - Reclamation Practices

111.3 - Erosion/sediment control

Please describe the proposed methods to control/minimize erosion and sediment loss from the disturbed areas following reclamation of the mine site. (TWJ)

R647-4-113 - Surety

Please provide an estimate of the cost to reclaim the mine site. This would include any regrading, ripping, earth moving, fertilizing, mulching and seeding. Include any supporting figures such as volumes, areas or equipment productivity. The Division will recognize any bond monies posted with State Lands and Forestry. (AAG)

The Division will suspend further review of the Bald Knoll Mine NOI until your response to this letter is received. If you have any questions in this regard please contact me, Travis Jones, Lynn Kunzler or Tony Gallegos of the Minerals Staff. Thank you for your cooperation in completing this permitting action.

Sincerely,

D. Wayne Hedberg
Permit Supervisor
Minerals Regulatory Program

jb
cc: Lowell Braxton, DOGM
John Blake, DSLF
Minerals File
M025012.rev